

TO ALL MEMBERS;

I have a number of proposals to mke concerning our repeaters, so please take a minute and see what is planned. As of this moment, they are only proposals, and it is up to us, the club members to decide if this is a reasonable course for us to pursue. I wish to make it quite clear that the Mount Baldy site will not be abandoned, rather that an improved repeater system replace the one that is currently located there.

To start off with, I would like to purchase a Micro Control Specialties Mark 4 repeater controller. The price is \$1,595 U.S., or roughly \$3,000 Cdn. Obviosly, we don't have that kind of money, so we can approach various companies and organizations. Failing that, another Raffle could be held along with other fund raising activities. I don't think there should be any problem raising the required funds.

I would like to change the frequency of the Mt. Baldy repeater to 147.660 in and 147.060 out. There are a number of reasons to make this change. Several years ago, the Canadians decided that 146.46/06 would be "The Repeater Pair" all across Canada. However, the Americans decided to use 147.000 Mhz as 'the dividing line', with all repeaters below 147 being low in/high out, and all repeaters above 147 being high in/low out. According to the American band plan, no repeaters would cross over the 147 dividing line.

As you can see, this caused problems. When our repeater had southern exposure, Americans operating on 146.46 would bring up the repeater, tying it up. According to the American plan, since no repeaters cross the 147 Mhz dividing line, 146.46 is a standard simplex channel. It is also interesting to note that VE3RPT in Toronto was on 146.46/06 originally, but has since been moved to 147.66/06 Mhz, due to similar problems no doubt.

In 1986 (next year), I would like to improve the repeaters antenna system with the addition of 2 or 3 yagi antennas to provide better all around coverage. If we plan to do this, the aforementioned frequency change will probably become a necessity for us, so lets change now to avoid future problems. Laurie, VE3BCD has indicated that he can retune the duplexer we already own, should we decide to change frequencies. All that is required is to change the repeaters receive crystal. Crystals are about \$8.00 each, so those of us with rock bound rigs will only have to buy one crystal - 147.66 Tx.

Among the changes I would like to see for our new repeater is a new callsign. The letters 'YQT' are an airport designator, and to most of us, are of little significance. I would like to change the callsign to VE3TBO (Thunder Bay, Ontario). The letters 'TBO' would then have some significance for us. I should also mention that the other two repeaters here in Thunder Bay start with 'TB'. VE3TBR (Thunder Bay Repeater), and VE3TBU (Thunder Bay Uhf).

VE3TBR would be kept on the air untill the other autopatch is OPERATIONAL. Once it is up and running, I feel we do not need, and we can't afford the luxury of two autopatch repeaters. However, I feel that 2 VHF repeaters are nice to have. One for autopatch and long range coverage, as well as serving as a "calling channel". The second would serve as an in-town chit-chat channel, and would have no special features. It would be a basic repeater.

If We decide to go this route, a computer controller for VE3TBR is un-necessary. This leaves us with two options. We could sell VE3TBR as a complete, working autopatch repeater. If we dicide to sell it, I figure it is worth somewhere between \$1000 to \$2000. Another basic, no frills repeater could then be bought or built. If we decide not to sell it, the TRS-80 computer could be removed, and used at the club station. A simple controller could then be built for VE3TBR.

With an eye to the future, we could look at repeaters for Nipigon and Raith, with linking back to Thunder Bay. No, I am not suggesting we do it right now, but the future looks promising. For your information, I have included a copy of the Mark 4 information sheet, and it is capable of full repeater linking.

To sum things up, here is what I propose we do:

- 1/ Purchase the Mark 4 repeater controller. Outside funding would be pursued to cover its purchase price.
- 2/ Change frequencies to 147.660/060 Mhz so that when the repeaters coverage is improved, the repeater will not be tied up with stations operating on 146.460 Mhz simplex.
- 3/ Change the repeaters callsign to VE3TBO to go with the new repeater, and give us a distinctive callsign that we can identify with.
- 4/ Once the autopatch is operational from Mt. Baldy, either sell or reconfigure VE3TBR as a basic repeater for a local chit-chat channel.

We must now decide our future, and what we would like to see happen. I have listed my proposals, and I feel they are a workable plan, with maximum benefit for the club and its members. I would also like to mention that I have heard lots of ideas, and after much deliberation and "thinking it thru", have taken the best ideas and formed a workable plan. Now you must decide our future.

Sincerely,

A handwritten signature in dark ink, reading "Tom Haavisto" followed by a long horizontal stroke and then "-VE3CX".

Tom Haavisto, VE3CX - President
Lakehead Amateur Radio Club

MARK 4

The next generation repeater.



FLEXIBILITY through hundreds of functions which let you personalize the Mark 4 to serve your exact needs.

PERFORMANCE through its all new receiver and transmitter. Both are engineered for outstanding service in the toughest environments.

EXPANDABLE software and hardware with microprocessor buses routed between circuit boards and space already allocated in the roomy cabinet for expansion modules.

FANTASTIC OPTIONS like Message Master™ speech -- imagine messages in your own voice, unlimited vocabulary, and no custom word cost.

In 1978 Micro Control Specialties gave the amateur community the first commercially available microprocessor based repeater, the Mark 3 CR, with innovative new features like autodial, redial, tail messages and versatile controlled outputs. Now step forward to Mark 4, the next generation repeater, and behold.

YOU'RE IN CONTROL

Yes, you are in control because the Mark 4 gives you the power to program dozens of messages, over 200 stored telephone numbers, and virtually all operating parameters merely by entering tone access codes. All vital information is field-programmable and stored in non-volatile memory, not in RAM, so Mark 4 will remember your instructions even after a power failure. No other repeater even comes close to matching its hundreds of functions and commands. And this is just the beginning of the Mark 4 story.

FUNCTIONS, FUNCTIONS, FUNCTIONS

The functions seem to go on forever because the Mark 4 responds to almost 500 different tone access codes to serve your repeater needs. You tell Mark 4 which codes it should recognize (your choice of codes from 3 to 5 digits long) then simply enter a code using a standard DTMF tone pad and the Mark 4 will obey. To guard against unauthorized access you can require that a CTCSS signal be present to access some functions, or all functions, and you can inhibit functions or groups of functions. With the MultiFax option you can even make the access permissions change with time of day.

For high security you can make commands acceptable only from the phone line and not from the repeater receiver, or you can require that a CTCSS signal be present for command access but not for user function access. For maximum security the Command Phone (CP) option lets you use a second telephone line exclusively for command access.

There is even a Testmode with five functions to help you balance audio levels and check function operation. In the Testmode you can zip through adjustments and alignment checks.

INPUT/OUTPUT CONTROL

Mark series repeaters have always been leaders in controlling external equipment and the Mark 4 is the new king of control! Interfacing is easy too because all connections are made to the rear panel terminal strips so connections can be added and checked easily without removing the repeater from service, without soldering, and without fussing with delicate connectors.

Inout/output and monitoring signals are of two types: those dedicated to particular features, and undedicated signals which are activated by functions codes and may be used to meet different needs in each application.

Dedicated control signals include 1) receiver COS, 2) link receiver COS, 3) transmitter-on output, 4) link transmitter-on output, 5) local push-to-talk input, 6) transmitter hold input so external equipment can keep the repeater active 7) emergency power sensing, 8) external ID source control, 9) shared phone line handshaking signals, 10) command signal input to validate command access codes entered through a separate command receiver, 11) VOX sense input, and 12) CTCSS sense input.

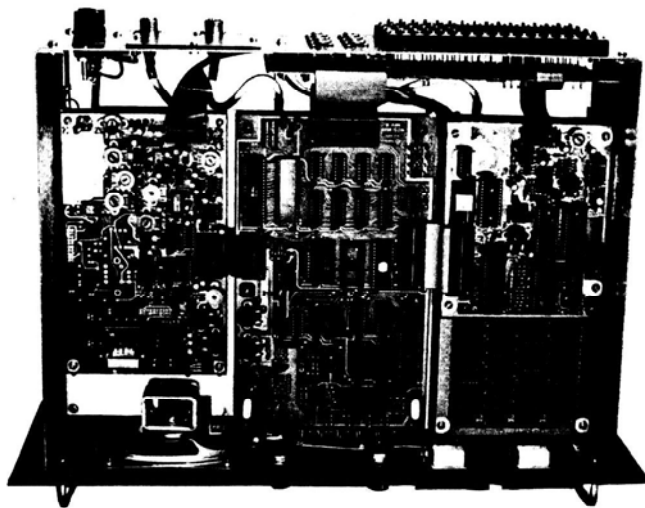
Undedicated control signals include 16 outputs which are activated by access codes. Five of these outputs have individual tail messages associated with them so when they are activated messages are sent to inform users that the functions are active.

User function outputs may have a time limit set by command, but even when a time limit is selected all functions are useage sensitive and will not timeout as long as they are being used. Of course, they may be cleared at any time by using the function clear code; in fact, separate clear codes are used for output functions and autopatch features so functions can remain active even when the autopatch is cleared. Command function outputs are untimed. They may be individually turned on and off or they may all be cleared simultaneously using a single command. User function outputs can also serve other needs in different applications: some can provide momentary pulse outputs and others can be used to generate two-tone sequential paging signals.

For even more control add the MultiFax option and get five undedicated analog measuring inputs plus three receiver measuring inputs with voice readout of signal strength, frequency offset and modulation level.

TELEPHONE INTERCONNECT

Telephone interconnect features include autopatch, last-number-called redial, reverse autopatch, and several automatic dialing capabilities. A large set of commands allows the features to be highly customized with different timeout limits, with CTCSS access, etc. Commands also determine whether outgoing calls will use dial pulse or regenerated DTMF tone signaling.



- Field programmable access codes, 3-5 digits
- 215 field programmable autodial telephone numbers
- Field programmable ID and tail messages
- 7 helical resonators in receiver front-end
- Low noise TMOS power FET transmitter [vhf]
- 64- terminal strip for easy input/output access
- Optional Message Master™ "real voice" speech
- Designed-in expansion, both hardware and software
- Digital DTMF tone detection and filtering
- Full metering, power supply, and handsome cabinet

Autopatch calling may be restricted by blocking calls having a leading 1 or 0, but Mark 4 power goes far beyond that. It can also be made to block calls to an entire city or to a single telephone simply by entering the power commands.

Commands also give great flexibility to reverse autopatch operation. When the Mark 4 answers an incoming call it can respond by waiting for a security code to be entered, or by transmitting a distinctive alerting signal, or by connecting the caller directly to the repeater. The choice is determined by command as is the length of time the call will ring before being answered.

Two types of autopatch dialing are provided: Common autodial can hold 15 telephone numbers and it is typically used to hold emergency numbers for access by all repeater users; user autodial can hold 200 numbers so each repeater user can store his/her own special number. Each number may contain up to 11 digits so area codes can be included if necessary. All numbers are field programmable using tone access codes, and users can even program their own autodial numbers so control operators are not burdened with requests to change numbers.

Another feature, predial autopatch, is a versatile combination of autopatch and autodial. It allows users to enjoy abbreviated calling to any telephone in selected areas by having the Mark 4 dial the first part of a telephone number and the user enter the rest of the number.

The command phone line interface option allows a second telephone line to be used so the Mark 4 can accept commands by telephone even when the autopatch is in use (autopatch calls cannot be made using the second phone line).

EVEN COMMON IS UNCOMMON

Tail timing and callsign identification are commonplace capabilities on some repeaters but the Mark 4 turns even these capabilities into flexible features. For example, your Mark 4 can operate with no tail, a quiet tail, a courtesy tone on the tail, a message on the tail, or both a courtesy tone and message on the tail. Of course, you program the tail message and if you enter a long tail message the Mark 4 is even smart enough to extend the tail time automatically until the message is done.

Our Mark 3 repeater introduced the 'smart ID', which does its best to be sent on the tail rather than when users are talking through the repeater. Well, the Mark 4 ID is even smarter! Now you can have a long informational ID sent on the tail and rely on the Mark 4 to switch to a different, shorter ID if the identification must be sent while someone is talking. You can even suspend the ID completely to avoid transmission errors when you are using the repeater for RTTY. And if that isn't enough, the Mark 4 provides audio input and handshaking to control an external ID source.

When a transmission timeout occurs the Mark 4 tells you about it not once but twice: just before the transmitter is turned off and again when received signal is removed. Now listeners don't have to guess why the repeater itself is selectable and the limit may be removed completely for special situations.

The choice of access methods is yours: open carrier access, CTCSS access, DTMF access code wakeup, or a combination of DTMF wakeup and CTCSS. If those variations aren't enough you can also combine them with VOX operation. You can even inhibit repeater style operation while having the autopatch and other functions active.

The choice is yours merely by entering commands, and with the MultiFax option you can have the Mark 4 automatically change the access method from morning to night.

AUDIO

Mark 4 audio circuits are designed to provide the finest distortion free audio. Complete gain, adjustment, and automatic switching is provided for link and spare inputs/outputs as well as for transmitter, receiver, and phone line connections. An audio delay circuit allows total muting of DTMF tones entered from the repeater receiver -- not even a hint of tone gets through to the transmitter. DTMF tone detection is done by a crystal controlled digital detector preceded by an integrated circuit filter for the most reliable tone detection.

RF CIRCUITS

The Mark 4 is a new generation in RF performance as well as in features. For example, you can be sure its transmitter is spectrally clean, stable, and well-engineered because it meets all FCC part 90 requirements for commercial operation (with crystal oven at UHF). But enjoyable repeater operation goes beyond even FCC requirements. The real secret of the Mark 4 transmitter is its audio response and highly symmetric limiter which produces sound so natural and distortion free that you'll believe it's direct.

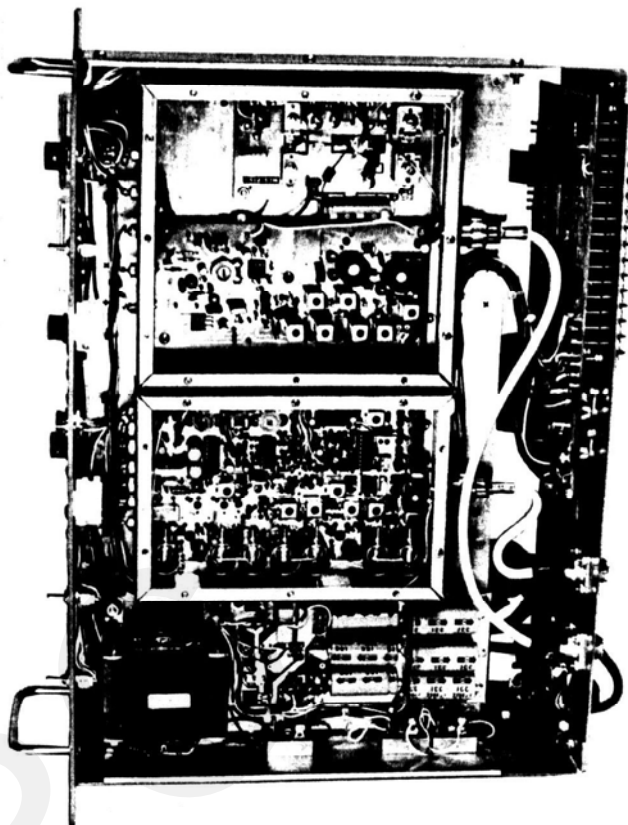
Outstanding is the only word for the new Mark 4 receiver. With 7 large helical resonators, a 21.4 MHz first IF, double-balanced mixers, and 12-poles of IF filtering it is virtually immune to overload. Of course, we kept our famous MCS Schmitt trigger squelch -- often called the best in the business -- and now we've added automatic fast/slow threshold switching to lock onto weak and fading signals better than ever before. Compare the specs with any other receiver and don't be surprised if you can't find a better receiver at any price.

POWER SUPPLY

Would you believe that some repeaters and controllers don't even include a power supply? Well, the Mark 4 certainly does. Its hefty AC power supply has ample reserve to handle the Mark 4 plus optional circuit boards. Alternatively, the Mark 4 may be powered from 12 VDC (at reduced power output) or 24-28 VDC (option) alone, or both AC and DC power supplies may be used to provide emergency backup power with normal operation from the AC supply and automatic transfer to the DC supply by the Mark 4 to inform operators of power failures and power status.

EQUIPMENT

The Mark 4 repeater is completely self-contained in a 7" x 19" x 12" deep handsome rack cabinet which is compact; yet roomy to contain optional feature circuit boards. Both the top and bottom cabinet covers are removable for easy access to adjustments and for ease of servicing. The transmitter and receiver are housed in individual enclosures within the cabinet and all non-RF leads to the transmitter and receiver pass through feedthrough capacitors to minimize RF leakage.



The attractive front panel contains local speaker, speaker select switch-local or repeat audio, squelch and local audio volume controls, status display, discriminator meter, received signal strength/peak deviation meter and meter switch, microphone input, and AC power switch. The rear panel contains four 15-terminal strips for quick connection to external equipment, RF coaxial jacks, DC power input terminals, 9 inch input/output jacks, and fuses. Additional connectors are provided on the rear panel when the Mark 4 is equipped with certain options.

OPTIONS

The Mark 4 is designed for expansion. Access is available to all major signal microprocessor buses, and space is allocated in the roomy cabinet so expansion options can be added on a plug-in basis.

MultiFax [MF] Option

The MultiFax option contains a package of enhancements to make repeater operation more enjoyable. First, there is a speech synthesizer to report fixed messages, clock time, receiver readings, and analog inputs as voice messages. Next there is a real-time clock which not only gives time announcements but can also be used to change repeater characteristics on a time-of-day basis. Finally, there is input/output signal expansion in the form of 8 analog measuring inputs. Three of these inputs measure received signal strength, received signal frequency error, and received signal peak deviation. The remaining five inputs may be used to measure external equipment such as emergency power source voltage.

Message Master™ Option

Here is real Message Master™ speech -- your own voice converted to digital form and stored in solid-state memory. Merely speak a message and the Mark 4 learns it. What could be easier. Individual messages can be as brief as 4-seconds and with a total storage capacity up to 2 minutes all field programmable messages can be sent as voice messages rather than CW. There is even room for a lengthy greeting message. Expansion software on the MM option board allows high flexibility in assigning messages to functions or other uses.

Yes, speech the way you want it -- your own voice, unlimited vocabulary, any language, and no cost for custom words.

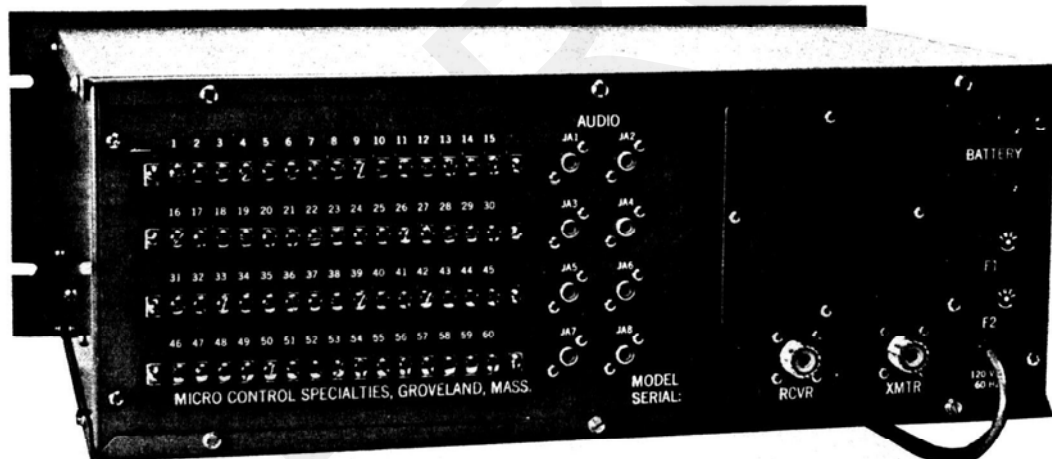
Receiver Voting [RV] Option

Nothing else extends repeater range like adding remote

receivers in weak signal areas. With the receiver voting option the Mark 4 can monitor four receiver inputs, or remote receiver links, and select the receiver with the best instantaneous signal-to-noise ratio. The RV option board contains its own dedicated microprocessor and measures true signal-to-noise ratio so, unlike some voting circuits, it does not require super-precise system alignment and it is not fooled by small gain variations in links. All control and audio switching circuitry is included.

STILL THE BEGINNING

As we said, this is just the beginning of the Mark 4 story. Chances are that any function you think of is already in the Mark 4 -- if your favorite function isn't mentioned here call and ask us about it. Mark 4 comes to you factory assembled, tested, and ready for operation. Just connect power, ground and antennas, and let the new generation begin.



MICRO CONTROL SPECIALTIES

DIV. OF KENDECOM INC.

23 Elm Park, Groveland, MA 01834 (617) 372-3442

SPECIFICATIONS

| | |
|-----------------------------------|--|
| User Functions | 23 |
| Command Functions | 135 |
| Autodial Numbers | 215 (11-digits each) |
| Sequential Tones | 100 (Motorola compatible-option) |
| Messages | |
| Fixed | 18 (CW or voice w/ MF option) |
| Programmable | 14 (CW or voice w/ MM option) |
| Optional | see MM option |
| Input/Output Connections | |
| User functions | 12 (outputs) |
| Command functions | 7 (outputs) |
| Receiver monitoring | 3 S-Meter, Disc., and received peak dev. |
| Analog Measurement | 5 (w/ MF option) |
| Optional | 9 (w/ RV option) |
| Audio | 9 |
| DC power input | 1 12 VDC (24 DC optional) |
| Other | 24 |
| Access Codes | selectable codes may be 3 to 5 digits long |
| Tone [DTMF] decoding | digital, crystal controlled, IC active filter |
| Telephone Interface Type | standard or optional FCC registered |
| Signaling | |
| Receiver | Dial pulse or regenerated DTMF tone |
| Sensitivity | .25uV (typ.) for 12 dB sinad |
| Selectivity | -6dB, 6.5kHz |
| | -105dB, 15kHz |
| | -125dB, 25kHz |
| | 7-helical resonators |
| Front-end | |
| I.F. | 21.4mHz, w/ 8-pole crystal filter, plus 455 kHz |
| | w/ 4-pole ceramic (optional 8-pole ceramic) |
| Image response | -125dB |
| Spurious response | -90dB |
| Overload/desense | 75000uV (600kHz, VHF) |
| | 100000uV (2mHz, VHF) |
| | 75000uV (2mHz, UHF) |
| Squelch | Schmitt trigger, 6dB hysteresis, automatic fast/slow switching remotely adjustable |
| Transmitter | |
| Power Output | 20-25 watts (vhf), Low noise TMOS power FET |
| | 10-15 watts (uhf) |
| Stability | .0005%)-10 to +60C) |
| | (.0002% w/ proportional oven) |
| Limiting | Symmetric hard limiter |
| Audio Response | 6dB/octave preemphasis (EIA) |
| Power requirements | 120 VAC, 60 Hz, 12VDC (at reduced RF output) or |
| | 24-28 VDC (option) |
| Environment | -20 to +60C ambient temperature. 10-85% RH |
| Principle Options | |
| MultiFax [MF] | Synthesized speech of all fixed messages, real-time clock, time-of-day functions, 5-analog measuring inputs, 3-remote reading receiver measurements. |
| | Digitally encoded voice, available w/ 8, 16, 24, or 32, segments. 4-sec per segment. |
| Message Master TM [MM] | Second phone line interface for command access. |
| | Available as standard or FCC registered. |
| Command Phone [CP] | Four-channel voting using true signal-to-noise ratio. |
| | |
| Receiver Voting [RV] | |

Consult factory for recent option additions. Prices and specifications subject to change without notice.

APRIL 1989

Early marine telegraphy

Just two years after the *Titanic* disaster, radio telegraphy saved lives in the St. Lawrence

By Stan Crabtree

Tales of disasters at sea generally conjure up images of a vessel at the mercy of the waves and probably hundreds of miles from the nearest land. And yet catastrophe can strike in calm waters, close to the shore.

An example is the fate of the *Empress of Ireland*, proceeding up the St. Lawrence River to Montreal on 29 May 1914, a disaster which had an immediate and profound effect on the future of maritime communications. Within days after hundreds of passengers and crew died, shipboard radio installations and qualified radio operators had become obligatory for all but the smallest seagoing vessels. This is how it happened:

At about 0130 hours local time, the Canadian Pacific liner sighted the Norwegian collier *Storstad*, about three miles distant. The liner was at a point in the river where a change of course was necessary and just as she did so the area was enveloped in a dense fog bank. At 0145, the *Storstad* struck the *Empress of Ireland* amidships and the CPR vessel immediately started to sink.

Senior wireless operator Ronald Ferguson had

been relieved only a few minutes earlier by the junior man, R A Bamford, but returned to the wireless cabin when a whistle sounded. He had also felt the impact. Sending Bamford to the bridge, he moved into the operating position and transmitted:

STAND BY FOR DISTRESS MESSAGE—
HAVE STRUCK SOMETHING

Bamford returned with a message from the chief officer and Ferguson continued:

SOS HAVE STRUCK SOMETHING,
SINKING FAST, SEND HELP

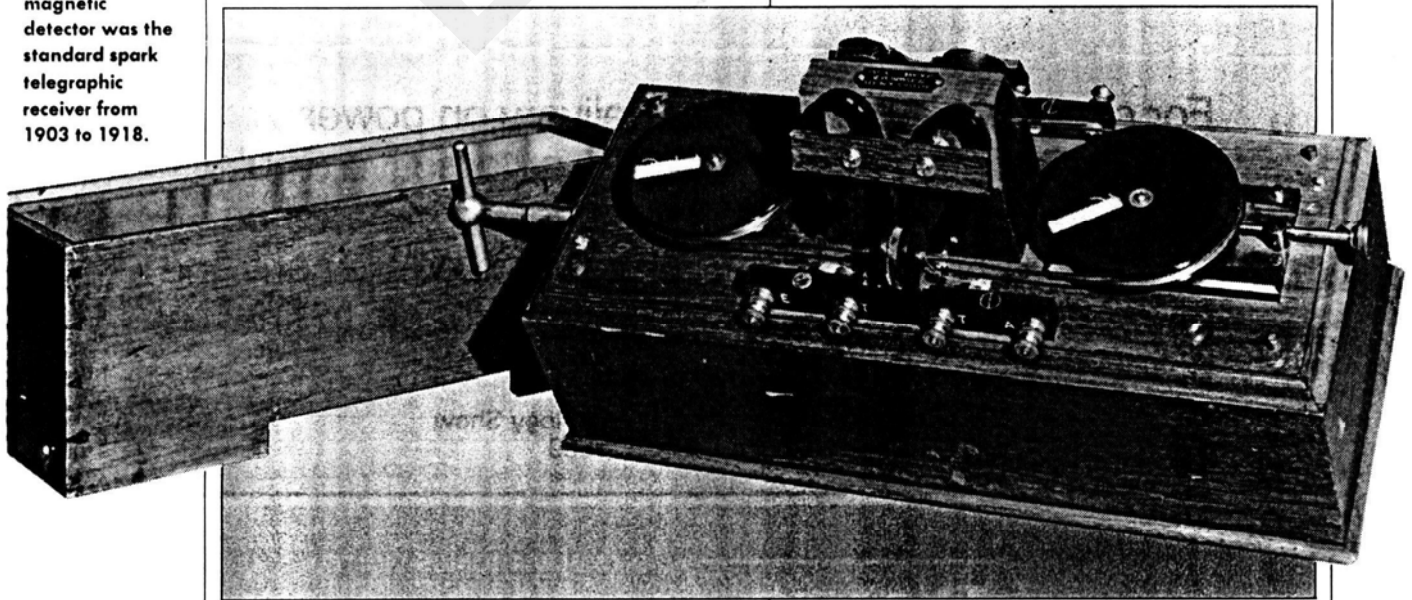
It was fortunate that, even at this time, the St. Lawrence Seaway had a comprehensive string of wireless stations stretching from Belle Isle right up to Montreal. The Marconi Station at Father Point, (VCF), responded immediately and asked for the liner's position. Ferguson keyed:

TWENTY MILES PAST RIMOUSKI

Immediately after passing this information, the power failed. Water has reached the ship's main dynamos only eight minutes after the first impact.

Although unable to transmit further from the

Marconi magnetic detector was the standard spark telegraphic receiver from 1903 to 1918.



main wireless cabin, Ferguson was able to copy Father Point's reply:

OK SENDING EUREKA AND LADY EVELYN YOUR ASSISTANCE.

The operator at Father Point was W J Whiteside, the officer in charge. He had been alerted by the duty operator and had already warned the captains of two government steamers at Rimouski Wharf of the situation.

Ferguson moved quickly to his cabin where the emergency wireless was installed. On his way, he realized that he did not have much time as the ship was well down in the water. As he entered the cabin, the vessel gave a sudden lurch which resulted in the accumulators breaking open the doors of the storage compartment. Reinstatement was impossible as the batteries had split and accumulator acid was swishing around the floor.

Going out on deck, Ferguson had just grasped a nearby deck chair when he was thrown overboard as the *Empress of Ireland* turned on her side and sank. After some 15 min., in water which was 4°F. above freezing, the senior wireless operator was picked up by

the *Storstad* and later transferred to the *Lady Evelyn*. The rescue ship had departed in haste and carried no radio man. Ferguson broke into the wireless cabin via the window and in a few minutes he had contacted Father Point Radio. He reported details of the disaster and asked for clothes and a train be sent to Rimouski Wharf. Bamford, the junior operator, had been picked up by the *Eureka*.

Captain Kendal, the Master, was rescued from floating wreckage some 30 min after his ship had gone down. He already had good reason to respect the use of wireless. In 1901, he was second officer of the *Lake Champlain*, the first British ship to be equipped with wireless telegraphy. He was also the observant Master who spotted Dr. Crippen and Miss Le Neve (disguised as a boy) on the *Montrose* and initiated their arrest—aided by wireless.

It had taken only 15 min. from the first impact for the *Empress of Ireland* to disappear from the icy waters of the St. Lawrence. Of some 1400 persons on board, more than 900 died. The speed of the tragedy prevented further rescues. Without wireless, it is doubtful

whether any would have been saved.

Two weeks after the sinking of the *Empress of Ireland*, the Mercantile Shipping (Convention) Bill was being debated in the British Parliament. Of particular importance were the measures that could be introduced to reduce the danger to lives at sea. The compulsory wireless clauses subsequently provided that every British ship carrying 50 or more persons should maintain a wireless telegraphy installation on board and carry a certified operator. The age of shipboard radio had begun in earnest.

Reprinted from Ocean Voice magazine.

Stan Crabree is an ex radio-officer and marine correspondent.

CEE

CEE COVER CREDITS

The November 1988 CEE cover photograph was credited in error. The static workbench and static protective products shown were in fact by The SIMCO Company, Inc., of Hatfield, PA.

Well... I Can Dream, Can't I?

by Bandel Linn K4PP



Moving?

OR INCORRECT ADDRESS

Please let **HUS** know
your new address.

You wouldn't want
to miss us. *!(!?)@!*

GARY 6238132

"Honey, I know you're talking to DX... I've put dinner on hold... just tell me
when you're ready to eat!"

THX '73

BENNY

VIA S.P.A.R.C. ✓

IT USES THE LATEST
JAPANESE KNOW-HOW. IT
HAS GOT DOUBLE CONVERSION



SYNCHRONOUS DETECTOR
FREQUENCY SYNTHESIS
DIGITAL READOUT, MUTE
SQUELCH, VARIABLE BAND-
WIDTH, LSB, USB, MEMORY
SIDETONE, DIGITAL WATCH,
SPACE INVADERS...



BUT THERE IS
A BIG SNAG!



ITS COMPUTER AUTOMATI-
CALLY TRANSLATES
EVERYTHING INTO JAPANESE!



SO, YOU CAN COMMU-
NICATE WITH THE
WHOLE WORLD!



BUT YOU CAN'T FIND
FIVE MINUTES



TO COMMUNICATE -



WITH ME!



The next meeting of the L.A.R.C. will be held Thursday, March 14th. Swap Night will be held - BRING YOUR JUNK!

RABBIT HUNT - RESULTS

Well, the hardware for the 1985 season has been awarded to Ed, VE3KRP. As I calculated the results, it was interesting to note that only 4 minutes between first and second place! For the 85-86 season, I would like to work the scoring as follows. Run a minimum of 5 hunts. Throw out the low and high scores, then add the remaining 3. Any other ideas?

Here is the final scores for the participants. A 2 race minimum was used, and the scores added. If only one score was available for a participant, they did not qualify for the trophy. Once again, thanks to Les, VE3AYZ for the beautiful trophy(s).

| | | |
|---------------------|-------|--------------------|
| VE3GOW and son John | 14535 | - 1 race |
| VE3EEW and VE3HJS | 1296 | - 1 race |
| VE3KRD and VE3NNR | 10116 | - 3 races (best 2) |
| VE3LML and son Axel | 7346 | - 2 races |
| VE3KRP | 7135 | - 2 races |

Tom VE3CX

RAFFLE RESULTS

Well, this one almost never got off the ground, but when it did, it took off like a rocket! We had one month to sell 2000 tickets for a Texas Mickey (133 oz) of Canadian Club Rye. Due to a super effort by everyone, with extra special thanks to the code and theory class group, we came out quite nicely. Would you believe that in one month, we raised in excess of \$600! Not bad eh!

Here is a breakdown of how thanks went

| | |
|-----------------|----------|
| tickets printed | 2000 |
| tickets sold | 1970 |
| gross returns | 808.00 |
| cost of prize | 98.25 |
| licence | 2.00 |
| printing | 93.75 |
| newspaper ad | 4.44 |
| NET TOTAL | \$609.66 |

About four years ago T.B.C. sold about a dozen Motracs (including control heads) to the local Ham fraternity (?) Well they wish to buy them back, at "at least the paid price". They mainly want unmodified units. Call them at 623-1211.

SI

Mar 85



AR

K

DE

09

LAKEHEAD AMATEUR RADIO CLUB
P.O. BOX 2571
THUNDER BAY, ONTARIO
P7B 5G1



TO:

L. Scalese VE3NHX
237 Dennis Street
THUNDER BAY, Ontario
P7B 5H7

First Class première classe

NI-Q